Reliability and the Role of Demand Response Programs

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Reliability / Economics

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Principles for Demand Side Response

- A fully mature market requires full participation by demand on an ongoing basis.
- Demand must provide the market with price signals.
- Market participants can only sell what they own.
- Demand should be able to respond to accurate and timely pricing information in all electric markets to the greatest extent possible.
- The RTO's role is to develop products and services that enable demand to receive pricing and usage information and react to same.
- The success of demand response also depends on good integration with the retail market, the development of standards for presenting and communicating pricing and usage information, and the adoption of market designs that include demand response participation within and across RTOs.

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The Electric Industry

- Our most critical infrastructure system
- Now also an information industry
- Now imbued with a workably competitive market in some regions
- Demand Side Response in the transition – programs with incentives, while we build the bridge between technology and market design

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Technology Applied to Demand Side Response

Automation of:

- Data collection
- Selected pricing information
- Communication of pricing and usage information
- Decisions about electric consumption
- Implementation of decisions about electric consumption

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Market Design and Demand Side Response

- Learn the attributes/potential attributes of sources of demand side response
- Identify both present and future requirements for reliable operation of the electric grid
- Identify the requirements and related markets that demand side response can meet and participate in, respectively
- Develop measurements to value the contribution of demand side response

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Current Demand Response Programs

- Emergency
- Economic
- Pilot for non-interval metered customers
- Active Load Management

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Payment to Load Reducers

EMERGENCY

2002

- 61 Registered Sites
- 548 MW
- Payments $177,000

2003

- 38 New Registered Sites
- 81 Additional MW
- $0 Payments for 2003

ECONOMIC

2002

- 116 Registered Sites
- 337 MW
- Payments $895,000

2003

- 117 New Registered Sites
- 381 Additional MW
- Payments $172,000 (up to Q2)

- Total Sites: 332 / Total MW: 1,347 MW
- Pending Sites: 79 / Pending MW: 36 MW
- 1,347 MW is approximately 2 % of the All Time Peak Demand

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Price Responsive Load Survey

Program Name	Name of Rate	Residential (MW)	Commercial (MW)	Industrial (MW)	Other (MW)	total
Electric Distribution Company/Competitive/Municipal or Cooperative Load Serving Entity						
Price Responsive Load Program or Pilot						0
Special Contract						0
Tariff Rates						0
Interruptible						0
Time of Use						0
LMP Based (including BGS)						0
Other						0
Other						0
Non PJM Active Load Management by Electric Distribution Company/Municipal or Cooperative Load Serving Entity						
Direct Load Control						0
Firm Service Level						0
Guaranteed Load Drop						0
Other (please include the name of the program)						0
Total		0	0	0	0	0

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Challenges Immediately Ahead

- PJM Demand Side Response programs in 2005 and beyond
- Resource Adequacy Model (PJM, NYISO, ISO-NE)
- “Economic” Transmission Expansion Planning
- Local Market Power Mitigation Working Group
- Behind the Meter Generation Working Group

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Other Demand Side Issues that Require Immediate Attention

- Upgrade Metering
- Pricing Information for End Users
- Electric Distribution Company buy–in
- Interconnection Standards

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